

**TECHNO INDIA GROUP PUBLIC SCHOOL**

**QUESTION BANK**

**CHAPTER – ATOMS AND MOLECULES**

**CLASS – IX**

**SECTION – A (1 MARK EACH)**

**1) MULTIPLE CHOICE QUESTIONS :**

- 1) The Atomicity of  $\text{KMnO}_4$  is –  
(a) 9 (b) 11 (c) 6 (d) 5
- 2) The symbol of Cadmium is –  
(a) Ca (b) Cn (c) Cm (d) Cd
- 3) All Noble Gas molecules are –  
(a) Monoatomic (b) Diatomic (c) Triatomic (d) Both a & b
- 4) The Law of Definite Proportions was given by –  
(a) John Dalton (b) Humphry Davy (c) Proust (d) Michael Faraday
- 5) When an atom loses electrons , it is called a(an) \_\_\_\_\_ and has a \_\_\_\_\_ Charge.  
(a) Anion, Positive (b) Cation, Positive (c) Anion, Negative (d) Cation, Negative

**SECTION – B ( 3 MARKS EACH)**

**II)ANSWER THE FOLLOWING SHORT ANSWER TYPE QUESTIONS:**

- 6) What are Polyatomic Ions ? Give two examples.

7) (a) How are Mass, Molar Mass and Number of Moles of a substance related to each other ?

(b) Calculate the molecular mass of the following : (i)  $\text{HNO}_3$  (ii)  $\text{CH}_3\text{COOH}$

[ atomic mass of H = 1u ; N = 14 u ; O = 16 u ; C = 12 u ]

8) (a) Define Atomic Mass Unit. (b) What is Atomicity of an Element . Give two examples.

9) (a) Write the latin names of Sodium and Iron .

(b) Write the formula and names of the compounds formed by the following ions :

(i) Pottasium ion and Iodide ion. (ii) Sodium ion and Sulphide ion

10) Calculate the number of Molecules of  $\text{SO}_2$  present in 44g of it .

11) (a) Define “ Mole”. (b) What is the mass of 1 mole of Sulphur atoms? (c) Convert 12g of Oxygen into Mole.

12) What is meant by the term Chemical Formula ? Write the Chemical Formula and the Formula Unit Mass of Calcium Oxide.

[ atomic mass of Ca = 40u ; O = 16u]

### **SECTION – C (5 MARKS EACH)**

### **III)ANSWER THE FOLLOWING LONG ANSWER TYPE QUESTIONS:**

13) (a) State four postulates of Dalton's Atomic Theory . (b) A 0.24g sample of compound of carbon and oxygen on analysis was found to contain 0.096g of carbon and 0.144g of oxygen . Find the percentage composition of the compound by weight .

- 14) (a) How many gram molecules of  $\text{H}_2\text{SO}_4$  are present in 4.9g of the acid ?  
(b) How many atoms of hydrogen and oxygen are present in 0.15 mole of water ( $\text{H}_2\text{O}$ ) ?

15) (a) State the Law of Conservation of Mass . (b) With the help of an activity , show that there is no change in mass when a chemical change takes place.

16) (a) A compound XH is formed by the combination of an element X with Hydrogen. Find the Valency of the Element. State the formula of the compound formed by the combination of (i) X with Nitrogen (ii) X with Oxygen

(b) Write the chemical formula of (i) Aluminium Chloride (ii) Zinc Sulphate.

17) (a) Identify the Cation and Anion in the compound  $\text{NH}_4\text{Cl}$  .

(b) How many moles are present in 60g of Ca ?

[ atomic mass of Ca = 40 u ]

(c) How many particles are present in 0.25g mole of an element ?

(d) Out of 4g of methane (  $\text{CH}_4$  ) and 11g of  $\text{CO}_2$  , which has more molecules ?

[ atomic mass of C = 12 u ; H = 1 u; O= 16u ]